

**ABSTRACT**

A connection verification system that provides substantially non-intrusive connection verification for an optical switch, achieved by correlating the low-frequency contents of the input and switched signals. The results of the correlation process are compared against a connection map to determine whether the switch has operated correctly and to identify, if possible, which mis-connections have taken place. The system includes a selection unit for controllably admitting individual ones of the input signals and individual ones of the switched signals and a verification unit connected to the selection unit, for controlling operation of the selection unit as a function of a connection map and performing relative-delay-dependent signal processing operations on the signals admitted by the selection unit so as to identify connections established through the switching unit and determine their consistency with the connection map. The relative-delay-dependent signal processing operations may be based on correlation or anti-correlation, depending on the operational requirements of the invention.